AMENDMENTS TO THE CLAIMS

Please cancel claims 1-35. The pending claims are 36-52, which are reproduced below. These claims are not amended.

1-35. Cancelled

36. (Previously presented) A method of producing embryo-derived proliferating cells having human nuclear DNA and bovine-derived mitochondria, comprising the following steps.

(i) enucleating a bovine oocyte;

(ii) inserting a human cell or cell nucleus into the bovine oocyte under conditions suitable for the formation of nuclear transfer unit;

(iii) activating the resultant nuclear transfer unit;

(iv) culturing the activated nuclear transfer unit to obtain a nuclear transfer unit having at least 16 cells; and

(v) culturing cells comprising the inner portion of the nuclear transfer unit of step (iv) in vitro to obtain cells proliferating as a colony.

37. (Previously presented) The method of Claim 36, wherein the human cell is an adult cell.

38. (Previously presented) The method of Claim 36, wherein the human cell is selected from the group consisting of epithelial, neural epidermal, karatinocyte, hematopoietic, melanocyte, mononuclear, fibroblast, cardiac muscle, and non-cardiac muscle cell.

39. (Previously presented) The method of Claim 36, wherein the human cell is an epithelial cell, lymphocyte or fibroblast.

40. (Previously presented) The method of Claim 36, wherein the enucleated bovine oocyte is matured prior to enucleation.

41. (Previously presented) The method of Claim 36, wherein step (ii) comprises inserting a human cell into the bovine oocyte, the method further comprising fusing the human cell and bovine oocyte.

42. (Previously presented) The of Claim 41, wherein fusion is effected by electrofusion.

43. (Previously presented) The method of Claim 36, wherein the nuclear transfer unit is activated by exposure to ionomycin and dimethylaminopurine (DMAP).

44. (Previously presented) The method of Claim 36, wherein the activated nuclear transfer unit is cultured to obtain a multicellular nuclear transfer unit comprising about 50 cells.

45. (Previously presented) The method of Claim 36, wherein step (v) comprises culturing cells comprising the inner portion of the nuclear transfer unit on a feeder layer.

46. (Previously presented) The method of Claim 45, wherein the feeder layer comprises fibroblasts.

47. (Previously presented) The method of Claim 46, wherein the feeder layer comprises mouse embryonic fibroblasts.

48. (Previously presented) Isolated proliferating cells having human nuclear DNA and bovine-derived mitochondria obtained according to the method of Claim 36.

49. (Previously presented) Isolated proliferating cells having human nuclear DNA and bovine-derived mitochondria obtained according to the method of Claim 39.

50. (Previously presented) Isolated proliferating cells having human nuclear DNA and bovine-derived mitochondria obtained according to the method of Claim 46.

51. (Previously presented) A method of producing embryonic-derived, proliferating cells having human nuclear DNA and bovine-derived mitochondria comprising the following steps:

(i) enucleating a bovine oocyte;

(ii) inserting a human epithelial cell nucleus into the bovine oocyte under conditions suitable for the formation of a nuclear transfer unit;

(iii) activating the resultant nuclear transfer unit;

(iv) culturing the activated nuclear transfer unit to obtain a nuclear transfer unit having at least 16 cells; and

(v) culturing cells comprising the inner portion of the nuclear transfer unit of step (iv) in vitro on a feeder layer of mouse embryonic fibroblasts to obtain cells proliferating as a colony.

52. (Previously presented) Isolated proliferating cells having human nuclear DNA and bovine-derived mitochondria obtained according to the method of Claim 51.